

The copyright © of this thesis belongs to its rightful author and/or other copyright owner. Copies can be accessed and downloaded for non-commercial or learning purposes without any charge and permission. The thesis cannot be reproduced or quoted as a whole without the permission from its rightful owner. No alteration or changes in format is allowed without permission from its rightful owner.



**BUSINESS ENTITY FINANCIAL VALUATION FOR  
MALAYSIA OIL & GAS INDUSTRY: A QUALITATIVE CASE  
STUDY APPROACH**

**NARRESH VEERASINGAM**



**UUM**  
**Universiti Utara Malaysia**

**MASTER OF SCIENCE (FINANCE)**

**UNIVERSITI UTARA MALAYSIA**

**December 2016**

**BUSINESS ENTITY FINANCIAL VALUATION FOR MALAYSIA OIL & GAS  
INDUSTRY: A QUALITATIVE CASE STUDY APPROACH**

By

NARRESH VEERASINGAM



UUM  
Universiti Utara Malaysia

Thesis Submitted to

Othman Yeop Abdullah Graduate School of Business,

Universiti Utara Malaysia,

in Fulfilment of the Requirement for the Degree of Masters in Science (Finance)



**Pusat Pengajian Ekonomi,  
Kewangan dan Perbankan**

SCHOOL OF ECONOMICS, FINANCE, AND BANKING

**Universiti Utara Malaysia**

**PERAKUAN KERJA KERTAS PENYELIDIKAN**  
*(Certification of Research Paper)*

Saya, mengaku bertandatangan, memperakukan bahawa  
*(I, the undersigned, certified that)*

**NARRESH A/L VEERASINGAM (818114)**

Calon untuk Ijazah Sarjana  
*(Candidate for the degree of)*

**MASTER OF SCIENCE (FINANCE)**

telah mengemukakan kertas penyelidikan yang bertajuk  
*(has presented his/her research paper of the following title)*

**BUSINESS ENTITY FINANCIAL VALUATION FOR MALAYSIA OIL AND GAS INDUSTRY: A  
QUALITATIVE CASE STUDY APPROACH**

Seperti yang tercatat di muka surat tajuk dan kulit kertas penyelidikan  
*(as it appears on the title page and front cover of the research paper)*

Bahawa kertas penyelidikan tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu  
dengan memuaskan.

*(that the research paper acceptable in the form and content and that a satisfactory knowledge of the field is covered  
by the dissertation).*

Nama Penyelia : **Assoc. Prof. Dr. Mohd Amy Azhar Mohd Harif**  
(Name of Supervisor)

Tandatangan  
(Signature)

Tarikh : **13 DECEMBER 2016**  
(Date)

## **PERMISSION TO USE**

In presenting this dissertation/project paper in partial fulfilment of the requirements for a Post Graduate degree from Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying this dissertation/project paper in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or in their absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my dissertation/project paper. It is understood that any copying or publication or use of this dissertation/project paper parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to UUM in any scholarly use which may be made of any material in my dissertation/project paper.

Request for permission to copy or to make other use of materials in this dissertation/project paper in whole or in part should be addressed to:

Dean of Othman Yeop Abdullah Graduate School of Business  
Universiti Utara Malaysia  
06010 UUM Sintok  
Kedah Darul Aman



Universiti Utara Malaysia

## ABSTRACT

The Oil & Gas sector has played a crucial role in Malaysia's economy in which 20% is contributed to the nation's gross domestic product (GDP). Hence, when the global oil price crisis begun in mid 2014, Malaysia's economy suffered a setback in terms of lower revenue being generated for the country and loss of investor confidence causing the FTSE Bursa Malaysia KLCI to fall as well. Therefore, with this in mind this paper examined a number of financial instruments with the aim of identifying the suitability of these instruments in evaluating business entity financial valuation of Oil & Gas companies before and after the oil price crisis. The literature review of this research presented five (5) financial instruments which are price to earnings (PE), enterprise multiplier (EM), discounted cash flow (DCF), net assets value (NAV) and net tangible assets (NTA) that can be used for business entity financial valuation of Malaysia Oil & Gas companies. Therefore, in order to confirm the literature findings, this study was conducted using a case study approach with the objective of contributing to the body of knowledge of the Oil & Gas industry both globally and locally. As a result of the findings, the study finds that the all five (5) financial instruments as mentioned above can be used before crisis periods but only four (4) financial instruments with the exclusion of the discounted cash flow (DCF) approach can be used after or during crisis periods. The exclusion of the discounted cash flow (DCF) valuation methodology is due to its inability to accurately produce consistent business entity financial valuations during times of crisis. In conclusion this research provides a conceptual framework which can be used as a guideline for business entity financial valuation of Malaysia Oil & Gas companies.

**Keywords:** Gross Domestic Product (GDP), Business Entity Financial Value, Price to Earnings (PE), Enterprise Multiplier (EM), Discounted Cash Flow (DCF), Net Assets Value (NAV), Net Tangible Assets (NTA)

## ABSTRAK

Sektor Minyak & Gas memainkan peranan yang penting untuk ekonomi Malaysia di mana 20% dari sektor ini menyumbang kepada keluaran dalam negara kasar (GDP). Oleh itu, apabila krisis harga minyak global bermula pada pertengahan 2014, ekonomi Malaysia mengalami kemunduran dari segi hasil yang lebih rendah dijana untuk negara dan kehilangan keyakinan pelabur menyebabkan Bursa Saham Kuala Lumpur (KLSE) jatuh juga. Selaras dengan fakta ini, karya ini akan meneliti beberapa instrumen kewangan dengan tujuan untuk mengenal pasti kesesuaian instrumen ini untuk menilai penilaian kewangan entiti perniagaan syarikat-syarikat Minyak & Gas Malaysia sebelum dan selepas krisis harga minyak. Kajian literatur telah menyampaikan lima (5) instrumen kewangan iaitu harga kepada pendapatan (PE), perusahaan pengganda (EM), aliran tunai terdiskaun (DCF), nilai aset bersih (NAV) dan nilai aset ketara bersih (NTA) yang boleh digunakan bagi penilaian kewangan entiti perniagaan syarikat-syarikat Malaysia Minyak & Gas. Seterusnya untuk mengesahkan penemuan sastera, kajian ini dijalankan dengan menggunakan pendekatan kajian kes dengan objektif untuk menyumbang kepada badan pengetahuan industri Minyak & Gas di peringkat global dan tempatan. Hasil daripada kajian ini mendapati bahawa kesemua lima (5) instrumen kewangan seperti yang dinyatakan di atas boleh digunakan sebelum tempoh krisis tetapi hanya empat (4) instrumen kewangan dengan pengecualian pendekatan aliran tunai terdiskaun (DCF) boleh digunakan selepas atau semasa tempoh krisis. Pengecualian kaedah penilaian aliran tunai terdiskaun (DCF) adalah disebabkan oleh ketidakupayaan untuk menghasilkan penilaian kewangan yang konsisten untuk entiti perniagaan pada masa krisis. Kesimpulannya kajian ini membekalkan satu rangka konsep yang boleh digunakan sebagai garis panduan bagi penilaian kewangan entiti perniagaan syarikat-syarikat Minyak & Gas Malaysia.

**Kata Kunci:** Keluaran dalam Negara Kasar (GDP), Penilaian Kewangan Entiti Perniagaan, Harga kepada Pendapatan (PE), Perusahaan Pengganda (EM), Aliran Tunai Diskaun (DCF), Nilai Asset Bersih (NAV), Nilai Asset Ketara Bersih (NTA)

## ACKNOWLEDGEMENT

First and foremost, my highest gratitude to my supervisor Associate Professor Dr. Mohd Amy Azhar Mohd Harif for guiding me from the beginning until the end of this research paper. Without his guidance this thesis would not have been completed.

Seizing this opportunity secondly I would like to thank my family members especially my parents for their support and care. I am so grateful to them, who raised me to have faith, confidence, and power in myself.

Thirdly, I would like to convey my sincere appreciation to Mr.Thomas Mathew who contributed his knowledge and work experience which had helped me complete this thesis, whilst at the same time picking up on the professional skills as well as life facts from him.

Last but not least, I would like to express appreciation to my friends and colleagues for their assistance and support directly or indirectly during the entire course of this research.

Thank you





## TABLE OF CONTENTS

CERTIFICATION OF THESIS WORK	ii
PERMISSION TO USE	iv
ABSTRACT	v
ABSTRAK	vi
ACKNOWLEDGEMENT	vii
TABLE OF CONTENT	viii
LIST OF TABLE	xi
LIST OF FIGURE	xiii
LIST OF ABBREVIATIONS	xiv
 CHAPTER 1: INTRODUCTION	 1
1.1 Introduction	1
1.2 Background of the study	2
1.2 Research problem	6
1.3 Justification of this research	7
1.4 Research issues	8
1.5 Research objectives	9
1.6 Significance of research	10
1.7 Scope and Limitations of study	13
1.8 Organization of the thesis	15
1.9 Summary	17

CHAPTER 2: LITERATURE REVIEW	19
2.1 Introduction	19
2.2 The overview of the Oil & Gas industry in Malaysia	20
2.3 The timeline of the oil price crisis	24
2.3.1 The Shale Oil Revolution in United States of America	28
2.4 The Financial Instruments used for Business Entity Financial Valuation (All Industry)	29
2.5 The Financial Instruments used for Business Entity Valuation of Oil & Gas Companies (Western)	35
2.6 The Financial Instruments used for Business Entity Financial Valuation of Oil & Gas Companies (Malaysia)	42
2.7 Preliminary Conceptual Framework	47
2.8 Research Issues	48
2.9 Summary	49
CHAPTER 3: RESEARCH METHODOLOGY	50
3.1 Introduction	50
3.2 Justification of Qualitative Research	51
3.3 Case Study Methodology	53
3.4 Strength and Justification of using Case Study Method in this research	55
3.5 Research Design	56
3.5.1 Unit of Analysis for this Research	57
3.5.2 Selection of Companies for this Research	58
3.5.3 Reliability and Validity of data	60
3.5.4 Data Collection	62
3.5.5 Data Analysis	64

3.6 Summary	66
CHAPTER 4: RESULTS & FINDINGS	67
4.1 Introduction	67
4.2 Overview of Selected Business Entities	68
4.3 Research Issues	74
4.3.1 Analysis result for Research Issue 1	74
4.3.2 Analysis result for Research Issue 2	78
4.4 Summary	85
CHAPTER 5: CONCLUSION	87
5.1 Introduction	87
5.2 Conclusion of Research Issues	90
5.2.1 Research Issue 1	90
5.2.2 Research Issue 2	92
5.3 Conclusion of Research Problems	94
5.3.1 Preliminary Conceptual Framework comparison	95
5.3.2 Conceptual Framework	95
5.4 Implications of this Research	97
5.5 Limitations of this Research	99
5.6 Suggestion for Future Research	100
5.7 Conclusion	101
REFERENCES	102
ONLINE RESOURCES	109
APPENDIX	111

## LIST OF TABLES

Table 1.1	Summary of Scope of this Research	13
Table 2.1	Oil and Gas History in Malaysia	21
Table 2.2	Literature Synthesis for Timeline of the Oil price crisis	26
Table 2.3	The main elements of business entity financial valuation for all industries	31
Table 2.4	The Financial Instruments used for business entity financial Valuation in the Western Oil & Gas Industry	36
Table 2.5	The Financial Instruments used for business entity financial Valuation in the Malaysia Oil & Gas Industry	43
Table 3.1	Case Study Methodology in Business Research	53
Table 3.2	Top five (5) Malaysia Oil and Gas business entities based on market capitalization	59
Table 3.3	Reliability and Validity approach for this Research	61
Table 3.4	Data Collection Summary Table	63
Table 3.5	Summary of Formula for Data Analysis	65
Table 4.1	Overview of Bumi Armada Berhad	69
Table 4.2	Overview of Bumi Armada Operations	69
Table 4.3	Snapshot of Bumi Armada's Financial Position	70
Table 4.4	Overview of SapuraKencana Berhad	71
Table 4.5	Overview of SapuraKencana Operations	72
Table 4.6	Snapshot of SapuraKencana's Financial Position	73
Table 4.7	Results for Case 1	75
Table 4.8	Realigned Results for Case 1 in RM billion	76
Table 4.9	Results for Case 2	77
Table 4.10	Realigned Results for Case 2 in RM billion	77

Table 4.11	Results for Case 3	79
Table 4.12	Realigned Results for Case 3 in RM billion	80
Table 4.13	Results for Case 4	82
Table 4.14	Realigned Results for Case 4 in RM billion	83
Table 4.15	Summary of findings of Research Issues	86
Table 5.1	Research Issue 1 Conclusion	91
Table 5.2	Research Issue 2 Conclusion	92



## LIST OF FIGURES

Figure 1.1	The Organization and flow of Chapter 1	1
Figure 1.2	Southeast Asia Oil Production	3
Figure 1.3	Global Oil & Gas Investment (2005 – 2015)	4
Figure 1.4	Summary of Significance of Research	10
Figure 1.5	Organization Structure of this Research	15
Figure 2.1	The Organization and flow of Chapter 2	19
Figure 2.2	The Biggest Oil & Gas Companies Operating in Malaysia	22
Figure 2.3	Top Oil Producers 2015	25
Figure 2.4	Oil's Big Dive	27
Figure 2.5	Preliminary Conceptual Framework	47
Figure 3.1	The Organization and Flow of Chapter 3	50
Figure 4.1	The Organization and Flow of Chapter 4	67
Figure 4.2	Bumi Armada Earnings (2012 – 2015)	81
Figure 4.3	SapuraKencana Earnings (2012 – 2015)	84
Figure 5.1	The Organization and Flow of Chapter 5	87
Figure 5.2	Final Conceptual Framework	96

## LIST OF ABBREVIATIONS

CAPM	Capital Assets Pricing Model
DCF	Discounted Cash Flow
EBITDA	Earnings before income, tax and depreciation
EBIDAX	Earnings before income, tax, depreciation and exploration expense
EM	Enterprise Multiplier
EPS	Earnings Per Share
EV	Enterprise Value
FCF	Free Cash Flow
GDP	Gross Domestic Product
KLCI	Kuala Lumpur Composite Index
LNG	Liquefied Nitrogen Gas
MIDA	Malaysia Investment Development Authority
MNC	Multi National Company
NAV	Net Assets Value
NTA	Net Tangible Assets
PE	Price to Earnings
PSC	Production Sharing Contract

## Chapter One: Introduction

### 1.0 Introduction

This chapter mainly serves as the overview and the background of what this research topic is going to discuss and what are the main problems to be addressed by this research. The organization of this chapter is shown in Figure 1.1.

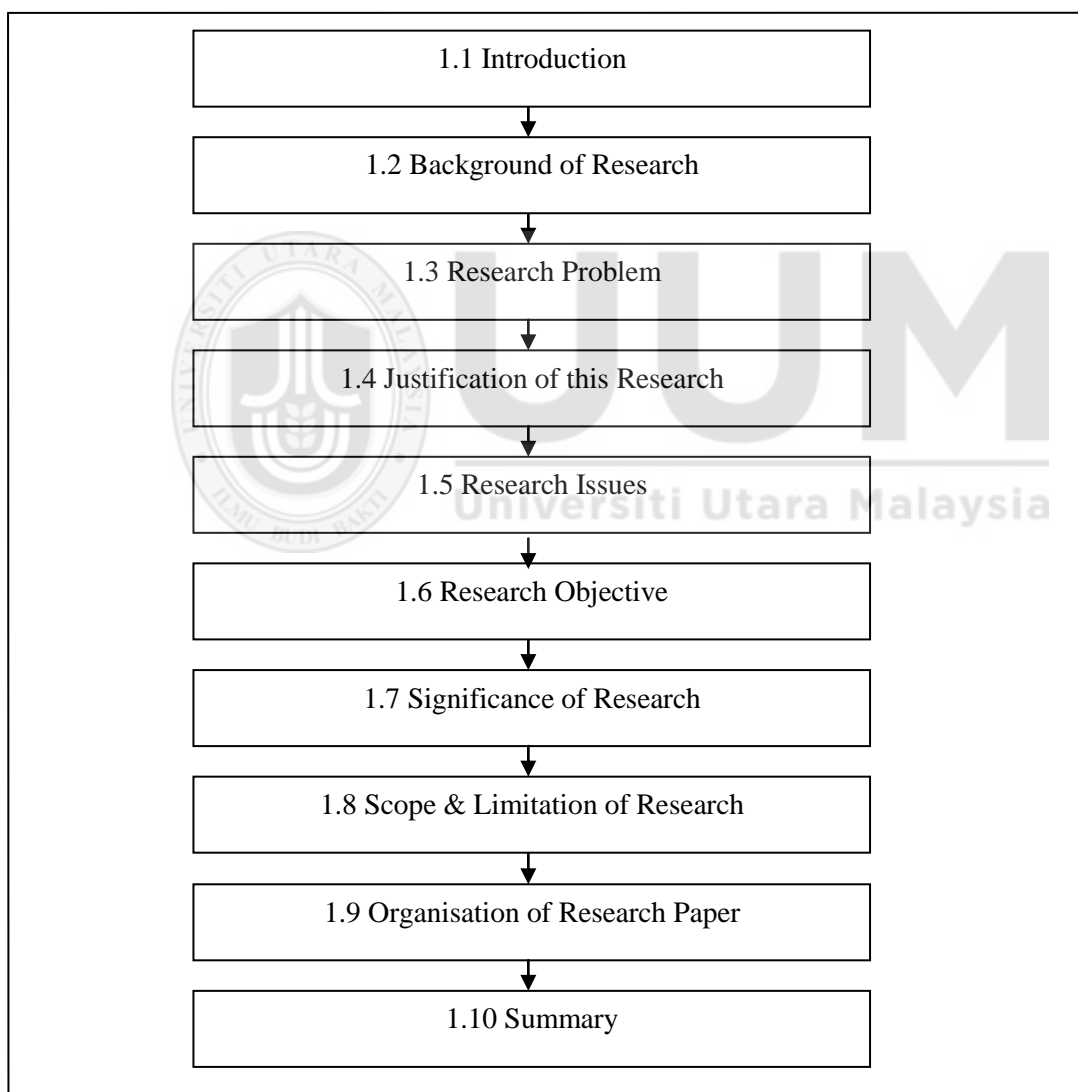


Figure 1.1  
*The organization and flow of Chapter 1*

Source: developed for this research



The contents of  
the thesis is for  
internal user  
only

## REFERENCES

- Antill, N. & Amotl, R. (2000). *Valuing Oil and Gas companies*. Cambridge, UK: Woodhead Publishing Ltd.
- Asiedu, E. (2013). *Foreign Direct Investment, Natural Resources and Institutions*. Kansas: International Growth Centre.
- Bafes, J., M. A. Kose, F. Ohnsorge, and M. Stocker (2015). The Great Plunge in Oil Prices: Causes, Consequences, and Policy Responses. *World Bank Policy Research Note PRS/15/01*.
- Barlow, C. (2001). *Modern Malaysia in the Global Economy*. Cheltenham, UK: Edward Elgar Publishing Ltd.
- Baumeister, C., & Kilian, L. (2016). Understanding the Decline in the Price of Oil since June 2014. *Journal of the Association of Environmental and Resource Economists*, 3, 131-158.
- Bloomberg L. P. (2016). *Oil price graph for WTI Crude Oil (Nymex) 1/1/13 to 1/1/16*. Retrieved July. 2, 2016 from Bloomberg database.
- Bloomberg L. P. (2016). *FTSE Bursa Malaysia KLCI 1/1/12 to 1/1/16*. Retrieved July. 2, 2016 from Bloomberg database.
- Bryant, L. (2003). Relative value relevance of the successful efforts and full cost accounting methods in the Oil and Gas industry. *Review of Accounting Studies* 8, 5-28.

Corbin, J. & Strauss, A. (2008). *Basics of Qualitative Research Techniques and Procedures for Developing Grounded*. Los Angeles: Sage Publications.

Corner, J (2009). In Search of More Complete Answers to Research Questions, Quantitative versus Qualitative Research Methods: Is there a way forward?. *Journal of Advanced Nursing*, 1 (6), 718-727.

Copeland, T.E., Koller, T. & Murrin, J. (2000). *Valuation: Measuring and Managing the Value of Companies* (3rd Ed) New York: John Wiley and Sons.

Creswell, J. (1998). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd Ed.). Thousand Oaks, CA: Sage Publications.

Damodaran, A. (2006). *Damodaran on Valuation* (2nd Ed.). New York: John Wiley and Sons.

Damodaran, A. (2009). *The Dark Side of Valuation: Valuing Young, Distressed, and Complex Businesses* (2nd Ed.). FT Press.

Damodaran, A. (2012). *Equity Risk Premiums (ERP): Determinants, Estimation and Implications*. Stern School of Business.

Deutsche Bank (2004). *Major Oils, annual assessment of strategies and valuation of the world's largest integrated Oil companies*.

Dul, J. & Hak, T. (2008). *Case Study Methodology in Business Research*. Burlington Butterworth: Heinemann Publications.

- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14: 532–550.
- Eisenhardt, K. M. & Graebner, M. E. (2007). Theory building from case studies: Opportunities and challenges. *Academy of Management Journal*, 50 (1), 25-32.
- Ennis, M. H. (2012). Some Theoretical Considerations Regarding Net Assets Value for Money Market Funds. *Economic Quarterly*, 98 (4), 231 – 254.
- Energy Information Administration (2016). *Shale in the United States*
- Fernandez, P. (2001). Valuation Using Multiples, How do analysts reach their conclusion?. *SSRN Working Paper*, n. 274972.
- Ghazali, Z. & Manab, N. A. (2013). Enterprise Risk Management and Value Creation: Initial Findings Amongst Non-Financial Public Listed Companies in Malaysian Bourse. *Journal of Asian Economic and Financial Review*, 3 (7), 913-922
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8 (4), 597–606.
- Green, J. L., Camilli, G., & Elmore, P. B. (2006). *Handbook of complementary methods in education research*. Mahwah, NJ: Lawrence Erlbaum.
- Gummesson, E. (2005). Qualitative research in marketing: Road-map for a wilderness of complexity and unpredictability. *European Journal of Marketing*, 39(3/4), 309-327.
- Hitchner, R. J. (2003). *Financial Valuation: Applications and Models*. New York: Wiley

- Hisham, M. (2014). *The Placement of Nominee Director as a Controlling Mechanism in Venture Capital Investment*. PhD thesis, Universiti Utara Malaysia.
- International Energy Agency (2015), World Energy Outlook Special Report. Paris : OECD/IEA.
- Johnson, B. & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches* (p. 34). Thousand Oaks, CA: Sage Publications.
- Kilian, L. (2015). Oil Price Shocks: Causes and Consequences. *Annual Review of Resource Economics*, 6, 133-154.
- Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: Measuring and Managing the Value of Companies* (5th Ed.). McKinsey & Company.
- Lichtman, M. (2006). *Qualitative research in education: A user's guide* (pp. 7-8). Thousand Oaks, CA: Sage Publications
- Liu, J., Nissim, D., & Thomas, J. (2001). Equity Valuation Using Multiples. *Journal of Accounting Research*.
- Mammadova, G. & Coskun, A. (2015). Costs and Benefits of Foreign Direct Investment to Azerbaijan's Economy: The Case of Oil Sector. *Asian Journal of Finance & Accounting*, 7 (1).
- Manescu, C.B. & Nuno, G. (2015). Quantitative Effects of the Shale Oil Revolution. *European Central Bank Working Paper*, n 1855.

- McDermott, B.J. (2010). *A Qualitative Multi Case Study of the Influence of Personal and Professional Ethics on the Leadership of Public School Superintendents* (Unpublished doctoral dissertation). Indiana University, Pennsylvania, USA.
- Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco, CA: Jossey-Bass.
- Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis: An expanded source book* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Mohaddes, K. and M. Raissi (2015). The U.S. Oil Supply Revolution and the Global Economy. IMF Working Paper No. 15/259 .
- Mohanty, S. N. & Nandha, M. (2011). Oil-risk exposure: The case of the U.S. Oil and Gas sector. *The Financial Review*, 46, 165-191.
- Neely, A. (2007). *Business Performance Measurement, Unifying Theories and integrating practice* (2<sup>nd</sup> Ed.). NY: Cambridge University Press.
- Osmundsen, P., Asche, F., Misund, B. and Mohn, K. (2006). Valuation of International Oil Companies. *The Energy Journal*, 27 (3).
- Patton, M. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage Publications.
- Patton, M.Q. (2002). *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: Sage Publications.

- Pignataro, P. (2013). *Financial Modelling & Valuation: A Practical Guide to Investment Banking and Private Equity*. Wiley Finance Series.
- PwC. (2016), Challenging times, but fundamentals intact. *The Malaysia Oil & Gas Industry*.
- Quirin, J. J., Berry, K. T. and D. O'Bryan (2000). A Fundamental Analysis Approach to Oil and Gas Firm Valuation. *Journal of Business Finance and Accounting*, 27 (7), 785-820.
- Robert, D. B. (2012). Company Valuation : Oil & Gas vs. Other Sectors. *Economist Corner*, 8, (3).
- Rowley, J. (2002). Using Case Studies in Research. *Management Research News*.
- Saunders, M., Lewis, P. & Thornhill, A. (2009). *Research Methods for Business Students* (5<sup>th</sup> edn). Harlow: FT Prentice Hall.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage
- Thomson Reuters. (2016). *Oil price graph for WTI Crude Oil (Nymex) 1/1/12 to 1/1/16*. Retrieved July. 2, 2016 from Thomson ONE database.
- Twain, M. (2012). Commonly Used Methods of Valuation. *National Association of Certified Valuers and Analyst (NACVA)*, 1 (6).
- Woodside, A. G., & Wilson, E. J. (2003). Case study research methods for theory building. *Journal of Business & Industrial Marketing*, 18 (6-7), 493-508.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd Ed.). Thousand Oaks, CA: Sage Publications.

Yin, R. (2011), *Case Study Research: Design and Methods*, (2nd Ed.), Thousand Oaks, CA, Sage Publications.





## ONLINE RESOURCES

Bank Negara Malaysia (2016). *Economic & Financial Data for Malaysia*. Retrieved from:

[http://www.bnm.gov.my/index.php?ch=statistic\\_nsdptpt=bnm\\_2011](http://www.bnm.gov.my/index.php?ch=statistic_nsdptpt=bnm_2011)

[2nd July 2016].

Barakah Offshore Petroleum Berhad. (2016). *Annual Report 2015*. Retrieved from:

<http://www.barakahpetroleum.com/bop/index.php/investor-relations> [22nd July 2016].

Bumi Armada. (2016). *Annual Report 2012 – 2015*. Retrieved from:

[http://www.bumiarmada.com/231\\_233\\_233/Web/WebPage/Audited-FinancialStatementsand-Annual-Reports/Annual-Reports.html](http://www.bumiarmada.com/231_233_233/Web/WebPage/Audited-FinancialStatementsand-Annual-Reports/Annual-Reports.html) [22nd July 2016].

Crisis. (2016). In *OxfordDictionaries.com*. Retrieved from:

<https://en.oxforddictionaries.com/definition/crisis> [2nd July 2016].

Bursa Saham (FTSE Bursa Malaysia KLCI) (2015), *Investors Relation*. Retrieved from:

<http://bursa.listedcompany.com> [22nd July 2016].

Malaysian Investment Development Authority (2015). Oil and Gas. Retrieved from:

<http://www.mida.gov.my/home/oil-and-gas/posts/> [2nd July 2016].

Malaysia Long Term Inflation Rate (2016). *Jabatan Statistik Malaysia (Department of Statistics Malaysia)*. Retrieved from:

<http://www.tradingeconomics.com/malaysia/inflation-cpi> [2nd July 2016].

RM40b in oil revenue loss in 2016. (2016, February 16). *News Straits Times*. Retrieved from:

<http://www.nst.com.my> [2nd July 2016].

SapuraKencana Petroleum. (2016). *Annual Report 2012 – 2015*. Retrieved from:

[http://ir.chartnexus.com/sapurakencana/annual\\_report.php](http://ir.chartnexus.com/sapurakencana/annual_report.php) [22nd July 2016].

Scomi Group. (2016). *Annual Report 2015*. Retrieved from:

<http://www.scomienergy.com.my/investor/annual.asp> [22nd July 2016].

The Oil & Gas Year Malaysia (2015). *The Oil & Gas Year*. Retrieved from:

<http://www.theoilandgasyear.com/> [2nd July 2016].

The World Bank, (2016). *Economic & Financial Data for Malaysia*. Retrieved from:

<http://data.worldbank.org/country/malaysia> [2nd July 2016].

UMW Oil & Gas. (2016). *Annual Report 2015*. Retrieved from:

[http://ir.chartnexus.com/umw-oilgas/annual\\_reports.php](http://ir.chartnexus.com/umw-oilgas/annual_reports.php) [22nd July 2016].



UUM  
Universiti Utara Malaysia

## APPENDIX

Criteria	Qualitative Research	Quantitative Research
Purpose	To understand & interpret social interactions.	To test hypotheses, look at cause & effect, & make predictions.
Groups Studied	Smaller & not randomly selected.	Larger & randomly selected.
Variables	Study of the whole, not variables.	Specific variables studied
Type of Data Collected	Words, images, or objects.	Numbers and statistics.
Form of Data Collected	Qualitative data such as open-ended responses, interviews, participant observations, field notes, & reflections.	Quantitative data based on precise measurements using structured & validated data-collection instruments.
Type of Data Analysis	Identify patterns, features, themes.	Identify statistical relationships.
Objectivity & Subjectivity	Subjectivity is expected.	Objectivity is critical.
Role of Researcher	Researcher & their biases may be known to participants in the study, & participant characteristics may be known to the researcher.	Researcher & their biases are not known to participants in the study, & participant characteristics are deliberately hidden.
Results	Particular or specialized findings that is less generalizable.	Generalizable findings that can be applied to other populations.
Scientific Method	Exploratory or bottom-up: the researcher generates a new hypothesis and theory from the data collected.	Confirmatory or top-down: the researcher tests the hypothesis and theory with the data.
View of Human Behaviour	Dynamic, situational, social, & personal.	Regular & predictable.
Focus	Wide-angle lens; examines the breadth & depth of phenomena.	Narrow-angle lens; tests specific hypotheses.
Nature of Observation	Study behaviour in a natural environment.	Study behaviour under controlled conditions; isolate causal effects.
Nature of Reality	Multiple realities; subjective.	Single reality; objective.